

**Remarks/Arguments:**

Claims 7, 8, 14, 15, and 17-30 are pending in the application and were examined. Applicants have amended claims 19 and 24 and added new claims 31 and 32. Support for the amendments can be found throughout the specification, for example: pepper, page 18, experiment 7; ornamental plant, page 4, third paragraph and page 13, experiment 5; corn, page 19, experiment 8; and strawberry, page 22, experiment 13. The amendments introduce no new matter.

Claims 7, 8, 14, 15, 17, 21, 22, and 26-30 stand rejected under 35 U.S.C. § 102(b) as anticipated by Smith (WO 00/04778) and Smith (WO 01/26465). Applicants traverse these rejections for the reasons discussed below.

Smith '778 discloses application of LCOs to seeds and the effects of LCOs on seedling germination and emergence. Indeed, it is the stated purpose of the '778 application to accelerate seed germination. Although the Office Action states that one could deduce foliar treatment from the statement, "plants are treated," (Office Action at page 3), the '778 application does not disclose or suggest the application of LCOs to foliage after seedling emergence ('778 at page 13, lines 4 and 5: "During direct inoculation the composition is applied directly to the seed prior to sowing," and Examples 12 and 13). LCO was also applied to the potting medium containing seeds as described in Example 4 of the '778 application. Therefore, the disclosures of the '778 reference are limited to seed treatment and to a developmental time just after emergence. At this time, the emerged seedlings lack substantial foliage and are incapable of flowering. Therefore, one of skill in the art would not deduce that the '778 reference teaches application of LCO to foliage. Furthermore, since the disclosed results do not extend to the budding or flowering period (experiments on corn ended 15 days after planting (Example 5) and experiments on other nonleguminous plants ended just after emergence of the shoot from the soil (Example 4)).

Accordingly, the disclosed studies do not provide any basis for an effect on budding or flowering or for foliar treatment. The '778 reference presents no data or even speculation on the effects of LCOs on the timing or amount of flowering or fruiting in nonleguminous plants. For these reasons, the Smith '778 reference fails to teach all elements of Applicants' claimed invention and cannot anticipate Applicants' claims. Therefore, Applicants request that the Section 102(b) rejections of claims 7, 8, 14, 15, 17, 21, 22, and 26-30 over the '778 reference be withdrawn.

Smith '465 teaches the effects of LCOs on *photosynthesis* in the foliage of nonleguminous plants after five days of LCO treatment. Smith does not disclose any effects of LCOs on budding, flowering, fruiting, or yield in nonleguminous plants. The Description of Drawings (pages 16-17), Examples 2-6, Tables 1-6, and Figures 1-9 of D1 support these statements. In addition, Smith '465 fails to suggest that an effect on photosynthesis necessarily leads to an effect on the timing or abundance of flowering in nonleguminous plants. Because nonleguminous plants do not undergo nodulation in the presence of LCOs, one of skill in the art would not have predicted, even in view of Smith '465, that LCOs would have the substantial effects on flowering, fruiting, and yield in nonlegumes that Applicants have demonstrated.

The Office Action finds these arguments unpersuasive because "both instant invention and Smith teach the same active step of applying LCOs to the plants, it is inherent that both inventions will yield the same result, i.e. the flowering and fruiting of non-legume plants." Applicants have already responded to this allegation in the Amendment of August 27, 2009, but the Office Action fails to acknowledge or reply to Applicant's response with respect to inherency. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." M.P.E.P. § 2112 IV, quoting *Ex parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990). Accordingly, Applicants request that the Examiner provide a basis in fact or technical reasoning to support the allegation of inherency, as required, and also that the Examiner respond specifically to Applicants' arguments, which follow.

The Office Action states that "it is inherent that both inventions [Smith's and Applicants'] will yield the same result, i.e., the flowering and fruiting of non-legume plants," (Office Action, pages 3 and 4), but this statement misinterprets the theory of inherency. "The principle of 'inherency,' in the law of anticipation, requires that any information missing from the reference would nonetheless be known to be present in the subject matter of the reference, when viewed by persons experienced in the field of the invention." *In re Omeprazole*, 483 F.3d 1364, 1378 (Fed. Cir. 2007). The Office Action provides no reasoning to explain why an effect on photosynthesis or germination necessarily leads to an effect on the timing or abundance of flowering or fruiting in nonleguminous plants. Neither of the Smith references suggests that an effect on photosynthesis or germination would necessarily lead to earlier or more abundant budding, flowering or fruiting. No other references have been cited which show that increased

photosynthesis or early germination hastens or stimulates flowering in a nonlegume. Thus, one of skill in the art would not interpret either of the Smith references as disclosing an effect of LCOs on the timing or abundance of flowering in nonleguminous plants.

Therefore, because Smith does not disclose or suggest any effects of LCO on timing or amount of budding, flowering, fruiting, or yield in non-legumes, or a link between photosynthesis and flowering, claims 7, 8, 14, 15, 17, 21, 22, and 26-30 are not anticipated by Smith, WO 01/26465 either directly or inherently. Accordingly, Applicants request that the rejection of these claims over Smith '465 be withdrawn.

Claims 18-20, 23-25, and 30 stand rejected under Section 103(a) as unpatentable over Smith WO 00/04778 and Smith WO 01/26465, because the treatment disclosed by these references would inherently produce Applicants' claimed effect on flowering. These claims depend from claims 8 or 21. Both claims 8 and 21 specify foliar LCO treatment of nonleguminous plants. As discussed above, neither of the Smith references discloses an effect of LCO applied to the foliage of a nonleguminous plant on the timing or abundance of budding, flowering, or fruiting. Therefore, even in combination, the two Smith references fail to disclose all the elements of claims 18-20, 23-25, and 30.

When combining references under Section 103(a), "[i]f a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP 2143.01(V), *citing In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). Furthermore, "a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." (MPEP Section 2141.02, quoting *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)(emphasis in original).

Smith '778 discloses the effect of LCO seed treatment on the germination of seeds and on seedling emergence and seedling growth in nonleguminous plants. The germination studies end when roots emerge from the seed ('778, page 13, lines 15-16). Seedling growth studies end 15 days after seed planting ('778, page 23, line 9). In contrast, Smith '465 states "spray was applied when the plants were big enough to allow easy measurements of leaf photosynthetic rates . . . , corn 25 DAP [days after planting]." ('465, page 21, lines 22-24). Thus the '778 method terminates 10 days prior to the time of the '465 foliar application. As mentioned above, foliar treatment requires foliage. Accordingly, one of skill in the art would not be motivated to modify the '778 method by substituting the '465 method to achieve the

result of the '778 method (enhanced germination or emergence), because there is no foliage present at the time of germination and emergence. Similarly, the methods for examining germination and emergence ('778) cannot be modified to examine photosynthesis ('465), because the seed and the emerged seedling lack sufficient foliage. Either of these modifications renders the prior art inventions, *i.e.*, the '778 and '465 inventions, unsatisfactory for their intended purposes. Therefore, one of skill in the art would not be motivated to combine the two Smith references.

For all of these reasons, the Smith references cannot render Applicants' claims unpatentable under Section 103(a). Therefore, Applicants urge that the Section 103(a) rejection of claims 18-20, 23-25, and 30 be withdrawn.

**Conclusion**

Applicants respectfully request reconsideration of the various rejections in view of the amendments and remarks submitted herewith. Applicants submit that the pending claims are in condition for allowance, which action is respectfully requested.

Respectfully submitted,



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